# Lab: Spring Data Advanced Querying

This document defines problems for in class lab and homework for the ["Databases Advanced – Hibernate" course @ Software University.](https://softuni.bg/courses/databases-advanced-hibernate)

You are given a simpler implementation of the Shampoo Company. Now it’s time to start writing some query methods to retrieve data. **Before you start, insert the data from the “shampoo-company-insert.sql” file.**

## Select Shampoos by Size

Create a method that selects all shampoos by size, ordered by shampoo id.

### Example:

Fetched shampoos with size MEDIUM:

|  |
| --- |
| **Output** |
| Nature Moments Mediterranean Olive Oil & Aloe Vera MEDIUM 6.50lv.  Volume & Fullness Lavender MEDIUM 5.50lv.  Rose Shine & Hydration MEDIUM 6.50lv.  Color Protection & Radiance MEDIUM 6.75lv.  Heavenly Long Long-Hair MEDIUM 7.50lv.  Sea Buckthorn Vital MEDIUM 6.50lv.  Fresh it Up! MEDIUM 7.65lv.  Nectar Nutrition MEDIUM 6.85lv. |

## Select Shampoos by Size or Label

Create a method that selects all shampoos by size or label. Sort ascending by price.

### Example:

Fetched shampoos with size MEDIUM and label id = **10**:

|  |
| --- |
| **Output** |
| Volume & Fullness Lavender MEDIUM 5.50lv.  Intense-Charm Brunette SMALL 5.50lv.  Nature Moments Mediterranean Olive Oil & Aloe Vera MEDIUM 6.50lv.  Rose Shine & Hydration MEDIUM 6.50lv.  Sea Buckthorn Vital MEDIUM 6.50lv.  Color Protection & Radiance MEDIUM 6.75lv.  Nectar Nutrition MEDIUM 6.85lv.  Heavenly Long Long-Hair MEDIUM 7.50lv.  Fresh it Up! MEDIUM 7.65lv.  Active-Caffeine SMALL 7.80lv. |

## Select Shampoos by Price

Create a method that selects all shampoos higher than a given price. Sort **descending** by price.

### Example:

Fetched shampoos with price higher than 5lv:

|  |
| --- |
| **Output** |
| Superfruit Nutrition LARGE 13.80lv.  Cotton Fresh LARGE 13.60lv.  Color Protection & Radiance LARGE 11.50lv.  Rose Shine & Hydration LARGE 10.70lv.  Nectar Nutrition LARGE 10.50lv.  Keratin Strong SMALL 8.80lv.  Superfruit Nutrition SMALL 8.80lv.  Cotton Fresh SMALL 8.80lv.  Keratin Strong LARGE 8.80lv.  Volume & Fullness Lavender LARGE 8.50lv.  … |

## Select Ingredients by Name

Create a method that selects all ingredients which name starts with given letters.

### Example:

Fetched ingredients with name starting with the letter “M”:

|  |
| --- |
| **Output** |
| Macadamia Oil  Mineral-Collagen  Micro Crystals |

## Select Ingredients by Names

Create a method that selects all ingredients which are contained in a given list. Sort ascending by price.

### Example:

|  |  |
| --- | --- |
| **Input** | **Output** |
| Lavender  Herbs  Apple | Apple  Lavender  Herbs |

## Count Shampoos by Price

Create a method that counts all shampoos with price lower than a given price.

### Example:

|  |  |
| --- | --- |
| **Input** | **Output** |
| 8.50 | 15 |

# JPQL Querying

## Select Shampoos by Ingredients

Create a method that selects all shampoos with ingredients in a given list.

### Example:

|  |  |
| --- | --- |
| **Input** | **Output** |
| Berry  Mineral-Colagen | Color Protection & Radiance  Fresh it Up!  Nectar Nutrition  Superfruit Nutrition  Color Protection & Radiance  Nectar Nutrition  Superfruit Nutrition |

## Select Shampoos by Ingredients Count

Create a method that selects all shampoos with ingredients less than a given number.

### Example:

|  |  |
| --- | --- |
| **Input** | **Output** |
| 2 | Moroccan Argan Oil & Macadamia  Volume & Fullness Lavender  Sea Buckthorn Vital  Active-Caffeine |

## Select Ingredient Name and Shampoo Brand By Name

Create a method that selects all shampoo names and their ingredients prices. Use named query.

|  |  |
| --- | --- |
| **Input** | **Output** |
| Silk Comb | 1.80 |
| Fresh it up! | 1.40 |

## Delete Ingredients by name

Create a method that deletes ingredients by a given name. Use named query.

## Update Ingredients by price

Create a method that increases the price of all ingredients by 10%. Use named query.

## Update Ingredients by Names

Create a method that updates all ingredients price which names are in a given list.